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PTO/SB/08A (08-00)

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Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/963,827
		Filing Date	September 26, 2001
		First Named Inventor	Sullenger, et al.
		Group Art Unit	<del>1645</del> 1635
		Examiner Name	Sean McGarry
		Attorney Docket Number	10815.105005
Sheet 1	of 7		

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. 1	U.S. Patent Document	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/Relevant Figures Appear
		Number Kind Code 2 (if known)			
SM	AA	5270163	Gold et al.	12-1993	
	AB	5532130	Alul	7-1996	
	AC	5534408	Green et al.	7-1996	
	AD	5552391	Coutts et al.	9-1996	
	AE	5594121	Froehler et al.	1-1997	
	AF	5606047	Coutts, et al.	2-19997	
	AG	5645985	Froehler et al.	7-1997	
	AH	5681702	Collins et al.	10-1997	
	AI	5750729	Alexander, et al.	5-1998	
	AJ	5780221	Schumacher, et al.	7-1998	
	AK	5780449	Bracht et al.	7-1998	
	AL	5780610	Collins et al.	7-1998	
	AM	5792608	Swaminathan et al.	8-1998	
	AN	5807718	Joyce et al	9-1998	
SM	AO	5,817,781	Swaminathan et al.	10-1998	

Examiner Signature	Date Considered
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		Attorney Docket Number	10815.105005
Sheet	2	of	17

SM	BA	5,830,653		Froehler et al.	11-1998	
	BB	5,839,443		Rose	11-24-1998	
	BC	5,840,867		Toole et al.	11-1998	
	BD	5,879,917		Essigmann et al.	3-1999	
	BE	5,882,870		Nadeau	3-1999	
	BF	5,882,941		Essigmann et al.	3-1999	
	BG	5,891,689		Takle et al.	4-1999	
	BH	5,935,776		Green et al.	8-1999	
	BI	5,989,823		Jayasena et al.	11-1999	
	BJ	6,004,746		Brent	12-1999	
	BK	6,051,388		Bodenhamer	4-2000	
	BL	6,054,274		Sampson et al.	4-2000	
	BM	6,060,056		Coutts et al	5-2000	
	BN	6,110,462		Barbas et al.	8-2000	
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	BQ	6,114,038		Castro et al.	9-2000	
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✓	BS	6,127,119		Stephens et al.	10-2000	
	BT	6,127,173		Eckstein et al.	10-2000	
SM	BU	6,136,545		Hoesel et al.	10-2000	

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		Group Art Unit	<del>1645</del>
		Examiner Name	Sean McGarry
Sheet	3	of	17
		Attorney Docket Number	10815.105005

SM	CA	6,147,204		Gold et al.	11-2000	
	CB	6,150,461		Takei et al.	11-2000	
	CC	6,153,410		Arnold et al.	11-2000	
	CD	6,163,714		Stanley et al.	12-2000	
	CE	6,171,795		Korman et al.	1-2001	
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	CI	6,183,967		Jayasena et al.	2-2001	
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	CK	6,315,995		Pinsky	11-13-2001	
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SM	CM	6,391,300		Rose	5-21-2002	

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Examiner Initials *	Cite No.	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document DD-MM-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1					
		Office <sup>3</sup> Number	Kind Code <sup>2</sup>			
		(if known)				
SM	CN	WO	94/006811	Integrated DNA Tech., Inc.	03-31-1994	
Examiner Signature					Date Considered	

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		Group Art Unit	1645
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		Attorney Docket Number	10815.105005
Sheet	4	of	7

SM	DA	WO	97/042317		T Cell Sciences, Inc.	11-13-1997	
	DB	WO	99/033971		MCG Research	07-08-1999	
	DC	WO	99/050462		Harvard	10-07-1999	
	DD	WO	00/020040		U. Mass.	04-13-2000	
	DE	WO	00/022114		Ingene	04-20-2000	
	DF	WO	00/024912		Children's Med. Center	05-04-2000	
	DG	WO	00/042063		Deutsches Krebsforschungsz	07-20-2000	
	DH	WO	00/042064		Deutsches Krebsforschungsz.	08-20-2000	
	DI	WO	04/011680		Archemix	02-05-2004	
	DJ	WO	04/014844		Transtech Pharma, Inc	02-19-2004	
	DK	WO	04/047742		Archemix	06-10-2004	
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	DM	WO	05/010150		Archemix	02-03-2005	
	DN	WO	05/014533		Transtech Pharma, Inc	02-17-2005	
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	DP	WO	05/084412		Archemix	09-15-2005	
	DQ	WO	05/111238		Archemix	11-24-2005	
	DR	WO	06/029258		Archemix	03-16-2006	
	DS	WO	06/033854		Archemix	03-30-2006	
	DT	EPO	1 026 243		Japan Science & Tech. Ag.	8-13-2000	
SM	DU	JP	11127864		Japan Science & Tech. Ag.	05-18-1999	

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		Group Art Unit	1645
		Examiner Name	Sean McGarry
		Attorney Docket Number	10815.105005
Sheet	5	of	3

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	EA	Agrawal et al. Mol. Med. Today (2000) 6:72-81	
SM	EB	Aldaz-Caoll et al. <i>Apical loop-internal loop interactions: a new RNA-RNA recognition motif identified through in vitro selection against RNA hairpins of the hepatitis C virus mRNA</i> Biochemistry 41:5883-5893 (2002) (abst)	
SM	EC	Bieseck et al. <i>Derivation of RNA aptamer inhibitors of human complement C5'</i> Immunopharmacology 42:219-230 (1999) (abst)	
SM	ED	Boiziau et al. <i>DNA aptamers selected against the HIV-1 trans-activation responsive RNA element form RNA-DNA kissing complexes</i> J Biol Chem 274:12730-12737 (1999)	
SM	EE	Callas et al. <i>Comparative pharmacology of site directed antithrombin agents Implication in drug development</i> Thrombosis and haemostasis (1995) 74:473-481(abst)	
SM	EF	Charlton et al. <i>IN vivo imaging of inflammation using an aptamer inhibitor of human neutrophil elastase</i> CHem. Biol. 4:809-816 (1997) (abst)	
SM	EG	Collin et al. <i>NMR characterization of a kissing complex formed between the TAR RNA element of HIV-1 and a DNA aptamer</i> Nucl. Ac. Rsch. 28:3386-3391 (2000)	
SM	EH	Darfeuille et al. <i>RNA and N3'-P5' kissing aptamers targeted to the trans-activation responsive (TAR) RNA of the human immunodeficiency virus-1</i> Nucs Nuc. Nuc. Ac. 20:441-449 (2001) (abst.)	
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		Examiner Name	Sean McGarry
Sheet	6	of	7
		Attorney Docket Number	10815.105005

SM	FA	Duconge et al. <i>Is closing "GA PAI" a rule for stable loop-loop RNA complexes?</i> J. Biol. Chem 275:21287-21294 (2000)
SM	FB	Gal et al. <i>Selection of a RNA aptamer that binds to human activated protein C and inhibits its protease function</i> European J. Biochem. 252:553-562 (1998) (abst)
SM	FC	Hwang et al. <i>Inhibition of gene expression in human cells through small molecule -RNA interactions</i> PNAS 96:12977 (1999)
SM	FD	Jen et al. (2000) Stem Cells 18:307-319
SM	FE	Leva et al. <i>GnRH binding RNA and DNA Spiegelmers A novel approach toward GnRH antagonism</i> Chemistry & Biology 8:351-359 (2002)
SM	FF	Li et al. <i>A novel nucleotide based thrombin inhibitor inhibits clot bound thrombin and reduces arterial platelet thrombus formation</i> Blood 83:677-682 (1994) (abst)
SM	FG	Opalinska, et al. Nature Reviews Drug Discovery (2002) 1:503-514
SM	FH	Padmanabhan et al. <i>The structure of alpha thrombin inhibited by a 15mer single stranded DNA aptamer</i> JBC (1993) (abst) 268:17651-17654
SM	FI	Rusconi, et al. <i>RNA aptamers as reversible antagonists of coagulation Factor IXa</i> Nature (2002) 419:90-94
SM	FJ	Shaw et al. <i>A novel oligodeoxynucleotide inhibitor of thrombin 1. In vitro metabolic stability in plasma and serum</i> Pharm. Rsch. 12:1937-1942 (1995) (abst)
SM	FK	Tasset et al. <i>Oligonucleotide inhibitors of human thrombin that bind distinct epitopes</i> J. Molecular Biol. 272:688-698 (1997) (abst)
SM	FL	Tinevez et al. <i>Selective inhibition of cell-free translation by oligonucleotides targeted to a mRNA hairpin structure</i> Nucl. Ac. Rsch. (1998) 26:2273-2278

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		Attorney Docket Number	10815.105005

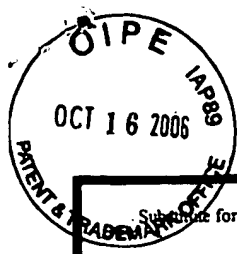
SM	GA	Tucker, et al. <i>Detection and plasma pharmacokinetics of an anti-vascular endothelial growth factor oligonucleotide aptamer in (NX1838) rhesus monkeys</i> J. Chromatography 732:203-212 (1999)
SM	GB	Wahlestedt, et al. <i>Potent and nontoxic antisense oligonucleotides containing locked nucleic acids</i> PNAS (2000) 97:5633-5638
SM	GC	Williams et al. <i>Bioactive and nuclease resistant L-DNA ligand of vasopressin</i> PNAS (1997) 94:11285-11290

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SM	AA	5,648,214	A	Nieuwlandt, <i>et al.</i>	07-15-1997	
	AB	5,760,202	A	Cook <i>et al.</i>	06-02-1998	
	AC	5,843,653	A	Gold <i>et al.</i>	12-01-1998	
	AD	6,001,820	A	Hirsh <i>et al.</i>	12-14-1999	
	AE	6,005,087	A	Cook <i>et al.</i>	12-21-1999	
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	AH	6,110,900	A	Gold <i>et al.</i>	08-29-2000	
	AI	6,117,557	A	Massie, II, <i>et al.</i>	09-12-2000	
	AJ	6,316,198	B1	Skouv <i>et al.</i>	11-13-2001	
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SM	AL	2006-0040881	A1	Rusconi	02-23-2006	

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		Office <sup>3</sup>	Number	Kind Code <sup>2</sup> (if known)				
SM	AM	EP	0,593,901	A2	Hoechst AG	04-27-1994		
	AN	WO	02/026932	A2	Duke University	04-04-2002		
	AO	WO	02/096926	A1	Duke University	12-05-2002		
SM	AP	WO	03/093422	A2	Schering	11-13-2003		

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	† <sup>6</sup>
SM	AQ	BEIGELMAN, L., <i>et al.</i> , "Chemical modification of hammerhead ribozymes. Catalytic activity and nuclease resistance," <i>J. Biol. Chem.</i> , 270(43):25702-25708 (October 25, 1995).	
SM	AR	BLACK, A.R., and AZIZKHAN-CLIFFORD, J., "Regulation of E2F: a family of transcription factors involved in proliferation control," <i>Gene</i> , 237(2):281-302 (September 17, 1999).	
SM	AS	CHASE, J.W., and WILLIAMS, K.R., "Single-stranded DNA binding proteins required for DNA replication," <i>Annu. Rev. Biochem.</i> , 55:103-136 (1986).	

Examiner  
SignatureDate  
Considered

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				Application Number	09/963,827
				Filing Date	September 26, 2001
				First Named Inventor	Sullenger <i>et al.</i>
				Group Art Unit	1635
				Examiner Name	Sean R. McGarry
				Attorney Docket Number	10815.105005
Sheet	2	of	3		

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SM	BA	DALE, R.M., <i>et al.</i> , "Direct covalent mercuration of nucleotides and polynucleotides," <i>Biochemistry</i> , 14(11):2447-2457 (June 3, 1975).	
SM	BB	DAVIES, J., <i>et al.</i> , Chap. 8, p. 185, in <i>RNA World</i> (Cold Spring Harbor Laboratory Press; eds. Gestlaad and Atkins; 1993).	
SM	BC	DeANDA, A. Jr., <i>et al.</i> , "Pilot study of the efficacy of a thrombin inhibitor for use during cardiopulmonary bypass," <i>Ann. Thorac. Surg.</i> , 58(2):344-350 (August 1994).	
SM	BD	EICHORN, G.L., <i>et al.</i> , "Interaction of metal ions with polynucleotides and related compounds. XII. The relative effect of various metal ions on DNA helicity," <i>J. Am. Chem. Soc.</i> , 90(26):7323-7328 (December 18, 1968).	
SM	BE	FEUERSTEIN, G.Z., <i>et al.</i> , "Antithrombotic efficacy of a novel murine antihuman factor IX antibody in rats," <i>Arterioscler. Thromb. Vasc. Biol.</i> , 19(10):2554-2562 (October 1999).	
SM	BF	GOOD, P.D., <i>et al.</i> , "Expression of small, therapeutic RNAs in human cell nuclei," <i>Gene Ther.</i> , 4(1):45-54 (January 1997).	
SM	BG	GRIFFIN, L.C., <i>et al.</i> , "In vivo anticoagulant properties of a novel nucleotide-based thrombin inhibitor and demonstration of regional anticoagulation in extracorporeal circuits," <i>Blood</i> , 81(12):3271-3276 (June 15, 1993).	
SM	BH	HARBOUR, J.W., and DEAN, D.C., "The Rb/E2F pathway: expanding roles and emerging paradigms," <i>Genes Dev.</i> , 14(19):2393-2409 (October 1, 2000).	
SM	BI	HELIN, K., and ED, H., "The retinoblastoma protein as a transcriptional repressor," <i>Trends Cell Biol.</i> , 3(2):43-46 (February 1993).	
SM	BJ	HUNTER, T., "Braking the cycle," <i>Cell</i> , 75(5):839-841 (December 3, 1993).	
SM	BK	ISHIZAKI, J., <i>et al.</i> , "Inhibition of cell proliferation by an RNA ligand that selectively blocks E2F function," <i>Nature Med.</i> , 2(12):1386-1389 (December 1996).	
SM	BL	LA THANGUE, N.B., "DRTF1/E2F: an expanding family of heterodimeric transcription factors implicated in cell-cycle control," <i>Trends Biochem. Sci.</i> , 19(3):108-114 (March 1994).	
SM	BM	LEE, S.W., <i>et al.</i> , "Isolation of a nuclease-resistant decoy RNA that can protect human acetylcholine receptors from myasthenic antibodies," <i>Nature Biotechnol.</i> , 15(1):41-45 (January 1997).	
SM	BN	LIPPARD, S.J., <i>et al.</i> , "Platinum complexes: probes of polynucleotide structure and antitumor drugs," <i>Acc. Chem. Res.</i> , 11:211-217 (1978).	
SM	BO	MANN, K.G., <i>et al.</i> , "Surface-dependent reactions of the vitamin K-dependent enzyme complexes," <i>Blood</i> , 76(1):1-16 (July 1, 1990).	
SM	BP	NEVINS, J.R., "E2F: a link between the Rb tumor suppressor protein and viral oncoproteins," <i>Science</i> , 258(5081):424-429 (October 16, 1992).	

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				Group Art Unit	1635
				Examiner Name	Sean R. McGarry
Sheet	3	of	3	Attorney Docket Number	10815.105005

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SM	CA	PIEKEN, W.A., <i>et al.</i> , "Kinetic characterization of ribonuclease-resistant 2'-modified hammerhead ribozymes," <i>Science</i> , 253(5017):314-317 (July 19, 1991).		
SM	CB	RUSCONI, C.P., <i>et al.</i> , "Blocking the initiation of coagulation by RNA aptamers to factor VIIa," <i>Thrombosis and Haemostasis</i> , 84(5):841-848 (November 2000).		
SM	CC	SHERR, C.J., "Mammalian G1 cyclins," <i>Cell</i> , 73(6):1059-1065 (June 18, 1993).		
SM	CD	SHERR, C.J., and ROBERTS, J.M., "Inhibitors of mammalian G1 cyclin-dependent kinases," <i>Genes Dev.</i> , 9(10):1149-1163 (May 15, 1995).		
SM	CE	SULLENGER, B.A., <i>et al.</i> , "Overexpression of TAR sequences renders cells resistant to human immunodeficiency virus replication," <i>Cell</i> , 63(3):601-608 (November 2, 1990).		
SM	CF	TUCKER, C.E., <i>et al.</i> , "Detection and plasma pharmacokinetics of an anti-vascular endothelial growth factor oligonucleotide-aptamer (NX1838) in rhesus monkeys," <i>J. Chromatog. B, Biomed. Sci. Appl.</i> , 732(1):203-212 (September 10, 1999).		
SM	CG	WEINBERG, R.A., "The retinoblastoma protein and cell cycle control," <i>Cell</i> , 81(3):323-330 (May 5, 1995).		
SM	CH	WHITE, R.R., <i>et al.</i> , "Developing aptamers into therapeutics," <i>J. Clin. Invest.</i> , 106(8):929-934 (October 2000).		
SM	CI	WILLIS, M.C., <i>et al.</i> , "Liposome-anchored vascular endothelial growth factor aptamers," <i>Bioconjug. Chem.</i> , 9(5):573-582, (September-October 1998).		
SM	CJ	WILLIS, M.C., <i>et al.</i> , "Liposome-anchored vascular endothelial growth factor aptamers," <i>Bioconjug. Chem.</i> , 9(5):633 (September-October 1998) [Erratum, Collins, B., corrected to Collins, B.D.].		

Examiner Signature	/Sean McGarry/	Date Considered	04/12/2007
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				Application Number	09/963,827
				Filing Date	September 26, 2001
				First Named Inventor	Sullenger <i>et al.</i>
				Group Art Unit	1635
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SM	AA	SMIRNOV, I., and SHAFER, R.H., "Effect of loop sequence and size on DNA aptamer stability," <i>Biochemistry</i> , 39(6):1462-1468 (February 15, 2000).					

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